Montana PSC
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In response to the Montana Public Service Commission's consideration of adopting IEEE interconnect standards for Investor Owned Utilities, IBEW offers the following comments in opposition.

IBEW recognizes the purpose of adopting the IEEE interconnect standards is to more easily allow Distributed Generation, small-scale and private generation of electricity. The methods used for such generation range from solar panels to wind turbines to anything else an individual can think up, and are considered clean sources of electricity. IBEW also recognizes the current trend in Montana and elsewhere is to promote and encourage the use of these methods of generation.

While the purpose of the Commission's consideration of IEEE interconnect standards may be to encourage small-scale generation, it has a potentially disastrous consequence for the linemen IBEW represent. For over 115 years, IBEW has been charged with advancing the interests of electrical workers. While good wages and benefits are some of these interests, they are of little use for an electrical worker injured or killed by circumstances he could have never predicted and took all steps to prevent. Our Brotherhood was founded in the interest of safety for the line worker, and safety remains our top priority.

The IEEE interconnect standards create a distribution system with multiple and unregulated points of entry for electricity. For a lineman on the job this means playing Russian Roulette every time he works on a line. Currently, in order to ensure a line is not energized, an open circuit, that is, an actual physical separation of line from the generation source is required. With a limited number of generation sources feeding most lines in Montana, this is a controllable equation to ensure the safety of linemen. The IEEE interconnect standards create a variable in that equation, and unexpected variables can mean fatal consequences for a lineman.

Take the following scenario as an example. During a winter storm, numerous lines go down in the rural area around Whitehall, cutting power to customers. Northwestern Energy crews from Butte and Helena as well as a contract crew are dispatched to the area. Whitehall is in the Butte Division the Butte crew is relatively familiar with the system. The contract crew and the Helena crew are not familiar with the system, as they do not work on it on a regular basis. Normally, crews are split up and sent in different directions to restore power as quickly as possible. For purposes of the scenario, this means two of three crews are working in unfamiliar surroundings.

Two of three crews have no idea that a small-scale generation source is lurking somewhere up the line from them. This source, a homemade wind generator, is tied through net metering to the distribution system the linemen are working on. It connects to the system at a point on the line after the open-circuit, which the linemen created to

ensure a de-energized and safe line to work on. Thus the linemen are working on a line, which they properly believe is removed from all generation sources. However, they do not account, and there may not be way to account, for the voltage created by the homemade wind turbine. The result is backfeed. Backfeed occurs when voltage originates, in this case from the homemade wind turbine, on the secondary (low voltage) side of a transformer. It then goes backward through the transformer resulting in full line voltage (commonly 7200, 14400, volts known as primary voltage). The lineman in the above scenario would thus be working on a unfamiliar line, with the potential of 14400 volts coming through as a result of backfeed---backfeed caused by a homemade wind turbine operated without knowledge of the linemen working on the line.

IBEW agrees that Distributed Generation has a value and a use. That use is best served when self-generated energy is used to offset utility produced energy coming in through the meter. The result is a self-sustaining energy source, which the owner of the generator can use to heat water, supply light and power to out buildings, and supply other loads at their location. This can result in drastically reduced utility energy consumption and substantially lower electricity bills. In short, the owner of the solar array or wind turbine or whatever now produces a substantial portion of the energy he consumes, a good thing for both the customer and the environment.

The problem comes when these generation sources are hooked to the grid to offset their power bill in a net metering scheme. Rather than producing electricity that flows only into his home and out buildings, the owner now backfeeds into the grid. He is no longer only generating for his own needs, but adding voltage to the grid---voltage which is unregulated, uncontrolled, and unexpected by the linemen working on the lines.

In conclusion, IBEW opposes small-scale generation being hooked to the grid. When variables are introduced into power lines, the results can be lethal for the hardworking Montanans who keep those lines operable.

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